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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,524	10/15/2003	Jang-Kun Song	6192.0085.C1	4051

7590 05/21/2004

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EXAMINER

NGUYEN, DUNG T

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/684,524

Applicant(s)

SONG ET AL

Examiner

Dung Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 52-102 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 52-102 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/311/718.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/15/2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 52, 55-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koike et al., US Patent No. 5,473,455, in view of Koma, US Patent No. 5,608,556.

Regarding claims 52-54, 72-73 and 81-85, Koike et al. discloses a liquid crystal display (LCD) device (figures 50-51) comprising:

- . a first substrate (10) with a common electrode (24) having a protrusion portion (26p) thereon;
- . a second substrate (16) with a pixel electrode (21) having a depressed portion (22d) thereon;
- . a liquid crystal layer (20).

The difference between the claims and Koike et al. reference is that the pixel electrode having a plurality of crossing apertures instead of the depressed portion. Koma does disclose a

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crossing aperture can be formed on the pixel electrode (figure 8). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to form a plurality of apertures on the electrode instead of the depressed portion, since the selection of forming apertures or depresses portion on electrodes would be within the level of ordinary skill in the art. to improve a wide viewing angle.

Regarding claims 55, the modification to Koike et al. disclose the claimed invention as described above except for the polarizer sandwiching the LCD cell. It would have been obvious to one skilled in the art to form a polarizer attached to an LCD cell surfaces as required for twisted nematic liquid crystal material to work.

Regarding claims 56-61, the modification Koike et al. disclose the claimed invention as described above except for compensation films. It is known in the art to form a compensation film (e.g., retarder film) on the side of an LCD cell for correcting light from the light source (e.g., ambient light or backlight) through the LCD cell. Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to form a compensation films on the outer surface of an LCD cell in order to improve an LCD characteristics as mention above.

Regarding claims 62-71 and 77-80, the modification to Koike et al. disclose the claimed invention as described above except for a wedge-shaped of the protrusion . It would have been obvious to one skilled in the art at the time of the invention was made to choice the wedge-shaped for the protrusion, since Applicant has not disclosed that shape solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the depressed-shape protrusion.

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Regarding claims 74-76, the modification to Koike et al. disclose the claimed invention as described above except for the black matrix. One of ordinary skill in the art would have desired to form a black matrix films overlapping the aperture/protrusion to avoid leaking light in a display region. Therefore, it would have been obvious to one skilled in the art to form a black matrix film overlapping the Koike et al. aperture/protrusion in order to improve an LCD contrast.

4. Claims 53-54 are rejected under 35U.S.C. 103(a) as being unpatentable over Koike et al., US Patent No. 5,473,455, in view of Koma, US Patent No. 5,608,556, further in view of Bos et al., US Patent 6,141,074.

Regarding claims 53 and 54, the modification to Koike et al. disclose the claimed invention as described above except for the chiral nematic liquid crystal layer having a negative dielectric anisotropy. Bos et al. do disclose a multi-domain LCD can be form with a positive or negative dielectric anisotropy liquid crystal layer (see Summary of the Invention). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form a liquid crystal layer having a positive dielectric anisotropy or negative dielectric anisotropy because the use of one conventional material over another merely depends on the desire of the manufacturer (i.e., homogeneous or homeotropic alignment) and/or the availability and practicality of the material for the chosen manufacturing process (see Summary of the Invention). In addition, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a chiral dopant as a component in the liquid crystal material in order to attain an uniform twist in a liquid crystal layer.

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 52-102 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4, 8-9, 12-14 and 16 of U.S. Patent No. 6,714,837. Although the conflicting claims are not identical, they are not patentably distinct from each other because both patent and application disclose the same LCD device in which a plurality of protrusion formed on the common electrode and a plurality of apertures formed on the pixel electrode as claimed.

Conclusion

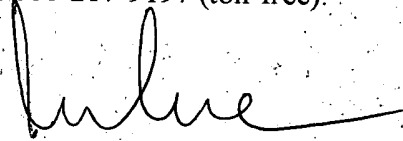
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Nguyen whose telephone number is 571-272-2297. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
05/12/2004



Dung Nguyen
Primary Examiner
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